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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,622	06/08/2006	Hirofumi Ito	6920/1029-USO	3648
76808	7590	04/26/2011		
Leason Ellis LLP 81 Main Street Suite 503 White Plains, NY 10601			EXAMINER WOOD, ELIZABETH D	
			ART UNIT	PAPER NUMBER
			1732	
			MAIL DATE	DELIVERY MODE
			04/26/2011	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/595,622

**Applicant(s)**

ITO ET AL.

**Examiner**

Elizabeth D. Wood

**Art Unit**

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 March 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3.5 and 7-11 is/are pending in the application.
- 4a) Of the above claim(s) 1,2 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3, 5 and 8-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 3, 2011 has been entered.

***Election/Restriction***

Claims 1, 2 and 7 remain withdrawn from consideration without traverse.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3, 5 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,544,793 to Okado et al. in view of JP 61-058812 A.

The invention involves a method for making an MFI zeolite by employing zeolite seed crystals during the hydrothermal synthesis. The zeolite crystals do not exceed 0.5 microns and the final product produced ranges from 0.05 to 2 microns.

Okado et al. disclose a ZSM-5 zeolite catalyst that is produced from a synthesis mixture analogous to that recited in the instantly claimed process. The examiner considers the broad ranges of the catalyst ingredients to be commensurate with those set forth in the instant claims. The examiner further considers arrival at the optimum ranges to involve no more than routine experimentation because the Okado et al. composition has the same utility as the instant composition, and therefore the effective amounts of the components would be expected to be similar and result-effective variables. See particularly the examples. The document differs from the instantly claimed method in the failure to recite a zeolite seed crystal as claimed.

It is well known in the art of zeolite synthesis to employ seed crystals to produce final compositions having crystals of consistent and desired particle size. Therefore it would have been within the skill of an artisan practicing in this field to employ a zeolite seed with a size as recited herein to produce a final composition of optimum particle or crystal size. JP 61-058812 A is relied on for the teaching that ZSM-5 seed crystals on the order of those claimed herein (hundreds of angstroms, which is not more than 0.5 microns) are known to be used during the synthesis of zeolite materials to result in a final product having a particle size of one micron or less. It would therefore have been obvious to employ such crystals as taught by the prior art. See particularly the claims and pages 3-6. Selection of the particular crystal (i.e. MFI crystal having silica to alumina ratio within the same range as the hydrothermal synthesis mixture) would not be an unobvious modification. JP '812 further disclose that it is known in this part to prepare ZSM-5 crystals having a particle size of one micron or less for the purpose of increasing the life of the zeolite and increasing the catalytic activity.

### ***Response to Arguments***

The amendments to the claims and the information in the request for consideration and the affidavit have been considered. However, they are not probative evidence of unexpected results at this time. The secondary reference clearly teaches that the size of the zeolite seed crystal is very small, as claimed herein, and that the size of the final zeolite produced is also within the range claimed herein. The reference further specifies that obtaining zeolites with this crystal size results in **expected** improvement in activity and catalyst life. The response employs a comparative seed

crystal larger than 0.5 microns. This is not a comparison to the closest prior art which teaches use of seed crystals on the order of hundreds of angstroms. The response further appears to indicate that it the amount of seed crystal employed rather than the size of the crystal that applicant contends results in obtaining zeolites of the claimed size. However, the claimed amount of crystal ranges from 1-60 mass percent of the catalyst synthesized without adding the crystal. This is a very large range and there is no showing that the desired result would be obtained across the entirety of this range. Moreover, the calculated amount of the crystal in the comparative example is also within the claimed range, resulting in further confusion with respect to why applicant would obtain a smaller particle.

### ***Conclusion***

Applicants are advised that any evidence to be provided under 37 CFR 1.131 or 1.132 and any amendments to the claims and specification should be submitted prior to final rejection to be considered timely. It is anticipated that the next office action will be a final rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth D. Wood whose telephone number is 571-272-1377. The examiner can normally be reached on M-F, 5:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elizabeth D. Wood/  
Primary Examiner, Art Unit 1732

/E. D. W./  
Primary Examiner, Art Unit 1732